Space Science Seminar
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The Hayabusa 2 Mission to a C-type Asteroid

Dr. Seiji Sugita/University of Tokyo
Host: Dr. Barbara Cohen

The Hayabusa 2 spacecraft was launched on an H2A rocket on December 3, 2014, from Tanegashima Island, Japan. The main mission goal is to bring back fresh samples from a C-type asteroid. The Hayabusa 2 target is 1999-JU3, which remote sensing characterization has shown to contain a large amount of both hydrous minerals and organic materials. Although both hydrous minerals and organics have been commonly found in carbonaceous chondrites, which are thought to be from C-type asteroids, these materials are easily contaminated by Earth volatiles as soon as meteorites fall to the ground. In order to investigate unambiguously extraterrestrial water and organics, a direct sample return mission from a C-type asteroid is essential. In this talk, I will briefly explain the Hayabusa 2 mission, the science instruments (visible cameras, a near infrared spectrometer, a thermal infrared camera, a laser altimeter, a small impactor, an ESA-supplied small lander -- MASCOT, and others), the basic mission plan, and the science goals. I will also review recent telescopic observation results for 1999-JU3, which suggest possible variation on its surface.

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